

REMARKS/ARGUMENTS

Claims 1-22 are pending. Claims 1 and 2 are cancelled and Claims 3, 4, 6-9, 11, 12, 14, 15 and 17 have been amended so as to change their dependency.

The Examiner has noted that Applicant has not filed a certified copy of Belgium 010307. However, Applicant's maintain that such a copy was filed on May 24, 2006, as evidenced by the enclosed documents.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothwell (U.S. 1,028,789) in view of Delruelle (U.S. 2,684,158). Applicants respectfully request withdrawal of this rejection.

Amended Claim 21 recites continuous fluid filtration device, comprising filtration cells each having an opening towards its top through which they are supplied with fluid to be filtered, the cells being fitted with a filter bed which, in the filtration position of the cells allows passage of a filtrate and retention of a filtration cake, and a bottom. Claim 21 further recites that the cells are disposed in a carousel around a rotation axis and each cell arranged so as to be able to pivot about a tilt axis tangential to a horizontal circle having the rotation axis as its centre. Claim 21 recites means for supporting the filtration cells so that each cell can perform a revolution about the rotation axis, means for driving the filtration cells in revolution about the rotation axis, means for moving the filtration cells to cause a tilting movement thereof about their tilt axis, during their revolution about the rotation axis, and means for discharging the filtrate from the cells comprising at least one outlet orifice at the

bottom of each cell, a central collector and connection means allowing flow of the filtrate between the said at least one outlet orifice and the collector.

Claim 21 also recites that said connection means for each cell comprise a flexible conduit *which is connected at a first end to said outlet orifice and at a second end to said central collector, the outlet orifice and the flexible conduit being continuously arranged in a radial section passing through the device during said complete revolution of said cell* with no area of the flexible conduit lower than another area of this conduit situated downstream with respect to the flow of the filtrate, the flexible conduit in the filtration position of the cell extending downwards from said outlet orifice along a substantially vertical axis and then, at a height lower than the tilt axis, being angled in the direction of the collector *with a continuous downward slope*, and the flexible conduit in tilting position of the cell extending substantially horizontally from the outlet orifice as far as the tilt axis, and being then angled in the direction of the central *collector with a continuous downward slope*. None of the cited references teach or disclose, either alone or in combination, all of the elements recited in claim 21.

For example, Rothwell teaches a separating device comprising a carousel of filtration cells wherein the cells are able to tilt around a tilt axis tangential to a horizontal circle having the rotation axis of the carousel as its center. This patent was already discussed in page 2, lines 15 to 23 of the present specification. In Rothwell, in order to discharge the filtrate, each cell is provided with a succession of rigid conduits 3a, 3b, 13 and 14 reciprocally connected in a water tight manner. The rigid conduit 3a is connected to an outlet orifice provided in the

bottom of the cell and is arranged vertically in filtration position and horizontally in tilted position. The other rigid conduits 3b, 13 and 14 are continuously arranged horizontally during the complete revolution of the cell, the conduits 13 and 14 being connected to a central collector. The conduit 3b is coaxial with the tilt axis. The conduits *reciprocally rotate* during the tilting of the cell and, therefore it is difficult to ensure a *secure tightness* between the conduits. Moreover, *no portion* of said set of rigid conduits extends up to a height *lower than the tilt axis* and the *outlet orifice*. Additionally, the rigid conduits are not continuously arranged in the same radial section of the device.

Finally, the set of conduits as discussed in Rothwell have a double function. Firstly, discharging the filtrate into the collector and secondly, acting as driving means for the upper movable disk of this collector. The device taught in Rothwell does not teach a flexible conduit *which is connected at a first end to said outlet orifice and at a second end to said central collector, the outlet orifice and the flexible conduit being continuously arranged in a radial section passing through the device during said complete revolution of said cell* with *no area* of the flexible conduit *lower than another area* of this conduit situated downstream with respect to the flow of the filtrate, as recited in claim 21.

Delruelle describes a continuous horizontal rotary filter wherein the cells are able to tilt around a radial axis. Each cell comprises an outlet orifice 32 situated in the bottom thereof at an external corner. As it results from Figure 5, a flexible conduit 41 is connected to this orifice, and is introduced within a radially extending shaft 3. Therefor the conduit 41 *must be bent*. Thereafter, the conduit 41 passes through the internal front wall of the cell and

is connected to a central collector. The outlet orifice 32 and the conduit are consequently *not* arranged in the same radial section of the device.

In the filtration position, the portion of the conduit 41, which is within the shaft 3 is arranged horizontally and the portion which is out of the cell extends slightly downwards to the collector (see FIG. 2). As it results from col. 5, lines 18 to 28 and from Col. 7, lines 1 to 13, the outlet orifice 32 is intentionally positioned in said external corner of the cell in order that this orifice will be lowermost when the filter cell is tilted about the shaft 3. According to Delruelle, this step ensures a complete draining of the liquid. In this tilted position the portion of the flexible conduit 41 connected to the orifice 32 is twisted downwards and is consequently in a lower position than the portion of this conduit situated downstream with respect to the flow of the filtrate. Moreover the so arranged flexible conduit must be able to withstand to twisting or torsional displacements of 180° *between its ends* (see col. 6, l. 18 to 22). The device taught in Delruelle does not teach the device recited in claim 21.

Applicants maintain that it would not have been obvious to one of ordinary skill to combine the teachings of Rothwell with the teachings of Delruelle for the following reasons.

First, the continuous horizontal rotary filter of Delruelle is of the type accurately disclosed in the present patent application from page 1, line 27 to page 2, line 13. This filter is exactly what the Applicant is trying to avoid because such filters are encumbering. In such a condition, a skilled person having knowledge of Rothwell, which avoids this disadvantage of loss in filtering surface, would not be prompted to use the teaching of the Delruelle which shows this disadvantage.

Second, the discharging conduits 3a, 3b, 13, and 14 of Rothwell have, as above disclosed, a double function. In order to fulfill the function of rotating the upper disk of the collector, these conduits must absolutely be rigid. In this condition, a person of ordinary skill in the art would not have been motivated, in light of Rothwell, to replace in his device the set of *rigid* conduits 3a, 3b, 13 and 14 by a *flexible* conduit. With a *flexible conduit* the complete device would be *unable* to work.

Finally, even if a person of ordinary skill in the art, having knowledge of the Rothwell, had decided to use a flexible conduit as disclosed in Delruelle, he would not obtain a *continuous filtration* device as recited in claim 21. Claim 21 recites a flexible conduit *which is connected at a first end to said outlet orifice and at a second end to said central collector, the outlet orifice and the flexible conduit being continuously arranged in a radial section passing through the device during said complete revolution of said cell* with no area of the flexible conduit lower than another area of this conduit situated downstream with respect to the flow of the filtrate, the flexible conduit in the filtration position of the cell extending downwards from said outlet orifice along a substantially vertical axis and then, at a height lower than the tilt axis, being angled in the direction of the collector *with a continuous downward slope*, and the flexible conduit in tilting position of the cell extending substantially horizontally from the outlet orifice as far as the tilt axis, and being then angled in the direction of the central *collector with a continuous downward slope*.

If one of ordinary skill in the art introduces in the cells of the Rothwell device a *flexible conduit* as provided in Delruelle from the beginning of the tilting step, the portion of

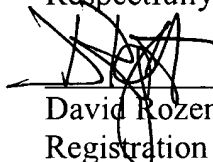
the conduit connected to the outlet orifice situated in the external corner of each cell will be *lower than* the area of this conduit situated at the internal side of the cell. Such an arrangement is to be *excluded* according claim 21. Moreover, during the tilting, the internal side of the cells of Rothwell is progressively elevated by rotation around said tangential axis. Consequently the distance between this internal side, from which the flexible conduit goes out from the cell according to the teaching of the Delruelle, becomes progressively *greater*, and the flexible conduit is submitted to an unacceptable elongation.

For these and other reasons, the cited art does not disclose the subject matter defined by independent Claim 21. Therefore, Claim 21 is allowable along with all claims which depend from the same for the same reasons and also because they recite additional patentable subject matter.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'David Rozenblat', is written over a horizontal line.

David Rozenblat
Registration No. 47,044
MICHAEL BEST & FRIEDRICH LLP
180 North Stetson Avenue, Suite 2000
Chicago, IL 60601
(312) 222-0800 (phone)
(312) 222-0818 (fax)